

# IMPROVED METHOD FOR THE 24-HOUR DIETARY RECALL FOR USE IN NATIONAL SURVEYS



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## Abstract

The U.S. Department of Agriculture has conducted research to improve the multiple-pass methodology used in the 1994-96 Continuing Survey of Food Intakes by Individuals (CSFII) to collect 24-hour dietary recalls. The research has focused on enhancing the multiple-pass approach to 1) provide appropriate targeted cues and probes for remembering foods, 2) reduce respondent burden, and 3) ease administration of dietary interviews by telephone. The new method was tested in a national random digit dial sample of 383 women 20-49 years of age. One 24-hour dietary recall was administered by telephone using the new multiple-pass approach during July through September 1998. Results from the field test of the new method were compared to results from a comparable 1994-96 CSFII sample. Average caloric intake was significantly higher ( $P < 0.01$ ) with the new method, increasing in calories from 1,748 in 1994-96 to 2,050 calories in the field test with the new method. The increase in calories was supported by an increase in the number of foods reported, 14 in 1994-96 CSFII compared to 16 foods in the field test. A description of the new method and additional results comparing the field test to 1994-96 CSFII will be presented.

Source: Moshfegh, A., Borrud, L., Perloff, B. and LaComb, R. 1999.  
Improved Method for the 24-hour Dietary Recall for Use in  
National Surveys. FASEB Journal 13(4):A603.

## The Question:

**“What is the most effective way to collect a complete 24-hour dietary recall?”**

Since the first nationwide collection of individual dietary intakes in 1965, the question “What is the most effective way to collect a complete 24-hour dietary recall?” has been the focus of research in USDA’s nutrition monitoring program. A multiple-pass method for conducting 24-hour dietary recalls was used in the 1994-96 Continuing Survey of Food Intakes by Individuals based on research showing that this approach maximized opportunities for respondents to recall foods they have eaten.

In preparation for moving USDA’s food consumption survey from an in-person interview to an automated telephone interview, cognitive research has been conducted to redesign the multiple-pass method. This qualitative research involved testing various pass-order structures, sequence and wording of questions, and use of memory cues. A variety of qualitative methods were used to evaluate the new methods including respondent and interviewer debriefings, behavior coding of interviews with respondents, and monitoring of telephone interviews. The new USDA Multiple-Pass Method developed is shown on the right side.

## Research Study

To evaluate the new USDA Multiple-Pass Method, a field test was conducted on a national random digit dial sample of 400 women 20-49 years of age; 383 respondents provided a complete dietary intake. This sample was selected because they represent a subgroup with food intakes that are less variable than other subgroups of the population, a desirable characteristic in comparing results because a smaller sample size is needed to determine statistically significant difference. The study objective was two-fold:

1. To determine if the new USDA Multiple-Pass produces more complete food intakes than previous method, and
2. To determine if the new USDA Multiple-Pass can be administered easily and within the desired time frame by telephone while engaging the respondent and reducing respondent burden.

### Data collection--

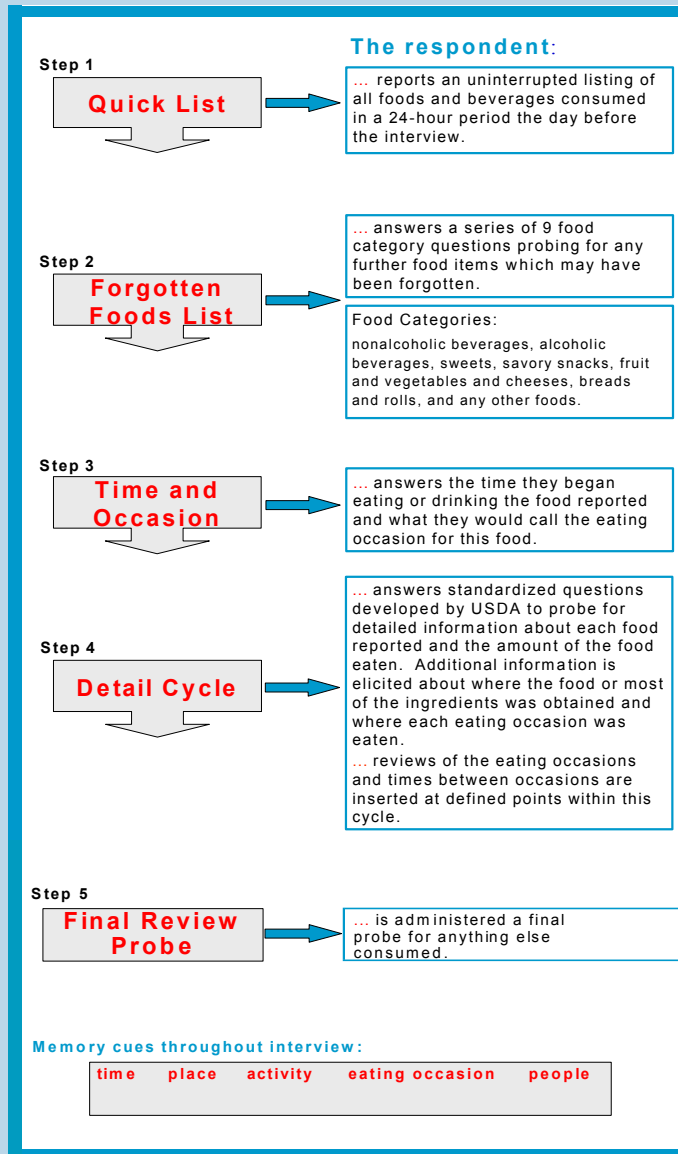
- July 31, 1998 to September 3, 1998.
- One 24-hour recall using new USDA Multiple-Pass.
- Six interviewers from a central telephone facility
- Measurement aids sent by Federal express prior to recall -- standard household measuring cups and spoons, a ruler, a Food Model Booklet with 2-D drawings of glasses, mugs, bowls, spoons, circles, and wedges.

Analysis was conducted to compare food and nutrient intakes from the study to those for a control group of women 20-49 years of age from the 1994-96 CSFII who were interviewed in July, August, or September of each year. Evaluation measures used included the mean number of foods reported; the mean intake of food energy; and the mean intake for protein, total fat, saturated fat, carbohydrate, vitamin B-6, iron, calcium, and vitamin-C; the mean food intake in grams for selected food groups; and the mean portion sizes for selected food items.

### Source:

Moshfegh, A., Borrud, L., Perloff, B. and LaComb, R. 1999. Improved Method for the 24-hour Dietary Recall for Use in National Surveys. FASEB Journal 13(4):A603.

# New USDA Multiple-Pass Method

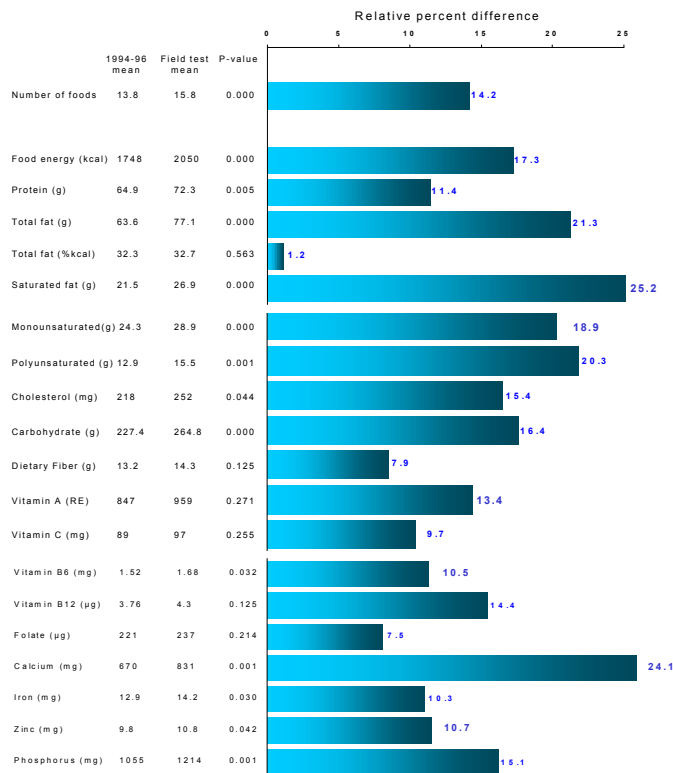


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## Field Test Results

**Comparison of selected mean nutrient intakes derived from the CSFII 1994-96 and the Field Test**



Source: 1994-96 Continuing Survey of Intakes by Individuals; intakes collected from 637 women age 20-49 for July, August, and September 1998 Field Test; intakes collected from 383 women age 20-49 for July, August, and September

- ☛ Average caloric intake was 302 calories higher ( $P < 0.01$ ) with the new USDA multiple-pass.
- ☛ The increase in caloric intake was supported by an increase in the number of foods reported--16 with the new USDA Multiple-Pass compared to 14 in 1994-96 CSFII. Each food in CSFII contributed an average of 150 calories.
- ☛ The average administration time was 31 minutes for the new USDA multiple-pass, comparable to that for the 1994-96 CSFII.

## Conclusions

- ☛ All data from the study, both quantitative and qualitative, demonstrate that the new USDA Multiple-Pass method is an effective way to collect a complete 24-hour dietary recall by telephone.
- ☛ The results suggest that the new method increases the remembrance of foods consumed by providing additional cues to help respondents report what they eat and drink.
- ☛ Additional testing of the new USDA Multiple-Pass method is planned to determine if the results shown for women can be replicated in other population subgroups.

### Source:

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